

APPLICATION

FOR UNITED STATES LETTERS PATENT

SPECIFICATION

TO ALL WHOM IT MAY CONCERN:

BE IT KNOWN THAT I, **STEVEN S. CONRAD**, a citizen of the United States of America, have invented new and useful improvements in a SEATING/STORAGE ADD-ON SECTION WITH HOLSTER FOR SHOPPING CART of which the following is a specification:

SEATING/STORAGE ADD-ON SECTION WITH HOLSTER FOR SHOPPING CART

Priority for this application is claimed from U.S. Provisional Application No. 60/430,521 entitled "Seating/Storage Add-On Section with Holster for Shopping Cart" filed on November 27, 2002

BACKGROUND

The present invention is directed to a seating/storage add-on section having a non-rigid coupling means for attaching to a shopping cart. The add-on section can be retrofitted to various sized shopping carts and provides additional seating and storage space on the cart. The non-rigid coupling means readily connects with a shopping cart and allows relative movement between the add-on section and the cart. The add-on section can be quickly and easily disconnected from an attached shopping cart.

Conventional shopping carts generally comprise a basket on a wheeled frame and a collapsible seat mounted in the basket. Such collapsible seats are intended to accommodate one small child, but for a shopper who has more than one child or whose child is too large to use the collapsible seat, shopping is made more difficult.

Devices that provide additional seating for shopping carts have been developed to accommodate those shoppers whose seating requirements exceed the limited capacity provided by a collapsible seat in a conventional cart. Some of these seating devices are integrally formed with the shopping cart so that the cart and seating device cannot be separated from each other. While such an integral device provides additional cart seating

for shoppers, the shopping cart can only be used with the seating device.

Other types of seating devices exist that can be releasably attached to a shopping cart. Some of these devices can be
5 retrofitted to an existing shopping cart to provide additional seating for children. However, installing such a device on a cart can require tools, skill and time, so that it can be a frustrating and lengthy task. Removing the device from the cart can be equally frustrating for the same reasons. Once attached,
10 the shopping cart is generally dedicated to exclusive use with the seating device. This limits the versatility of the shopping cart and can be a drawback when there may be a shortage of carts available for shoppers not requiring the additional seating of the combined unit.

15 In addition, the seating device and attached cart are usually stored as a combined unit since the connection between the two cannot be readily disengaged. A combined unit is unable to nest with other units as do conventional, unattached shopping carts. Each combined unit requires the full length of the
20 shopping cart and the attached seating device for storage. Consequently, more space is required for storing the combined units than would be needed for storing carts separately from the seating devices.

When the seating device and attached cart of the combined
25 unit are rigidly connected to each other, the rigid connection deters relative movement between the device and the cart. This is especially disadvantageous when the combined unit is used on

uneven surfaces, including curbs, speed bumps and ramps. When crossing an uneven surface, one or more wheels of the seating device and/or cart can leave the ground. The combined unit will remain rigid, thereby placing undue stress on the connector.

- 5 This stress can loosen and/or damage the connector which necessitates frequent inspection and maintenance of the combined unit at an increased cost to the owner.

For the foregoing reasons, there is a need for a seating/storage add-on section having a non-rigid coupling means
10 that can be readily attached and detached from a shopping cart so that the add-on section can be quickly installed or removed when desired. The need also exists for a non-rigid coupling means that allows for relative movement between the add-on section and an attached shopping cart.

15 **SUMMARY**

The present invention is directed to a seating/storage add-on section that can be readily attached and detached from a shopping cart and that allows relative movement between the add-on section and an attached shopping cart.

- 20 The add-on section comprises a base with a platform, a seating assembly and non-rigid coupling means. The coupling means is a non-rigid connector which comprises a holster formed by a pair of receptacles disposed on the front of the base. The connector enables the add-on section to readily attach to and
25 detach from a shopping cart. To attach a shopping cart, each of the rear wheels of the cart is lowered into a respective

receptacle of the add-on section's connector and held therein.
The combined unit, comprising the add-on section and an attached
cart, can then be maneuvered via a handle on the add-on section.
To detach the shopping cart, the rear wheels of the cart are
5 lifted out of the respective receptacles.

It is an object of the present invention to provide a
seating/storage add-on section that can be readily attached and
detached from a shopping cart.

It is a further object of the present invention to provide a
10 seating/storage add-on section for a shopping cart in which the
add-on section can move independently of the attached shopping
cart.

It is a further object of the present invention to provide a
seating/storage add-on section with a non-rigid coupling means
15 that allows movement between the add-on section and the attached
shopping cart.

It is a further object of the present invention to provide a
seating/storage add-on section having a connector that engages
the rear wheels of a shopping cart.

20 It is a further object of the present invention to provide a
seating/storage add-on section with a holster that receives and
holds the rear wheels of a shopping cart thereby attaching the
cart to the add-on section.

It is a further object of the present invention to provide a
25 seating/storage add-on section with a connector that can be
engaged and disengaged without the use of tools.

It is a further object of the present invention to provide a seating/storage add-on section that can be readily detached from a shopping cart for easier storage.

BRIEF DESCRIPTION OF THE DRAWINGS

5 Reference is made to the accompanying drawings in which are shown illustrative embodiments of the invention and from which novel features and advantages will be apparent.

Figure 1 is a perspective side view of a preferred embodiment of the seating/storage add-on section of the present
10 invention attached to a shopping cart.

Figure 2 is a perspective side view of the seating/storage add-on section of Figure 1.

Figure 3 is a partial view of the add-on section of Figure 1 showing the brake mechanism and a portion of the frame.

15 Figure 4 is a perspective view of the seating assembly of the add-on section of Figure 1.

Figure 5 is a partial perspective view showing a first preferred embodiment of one of the receptacles on the seating/storage add-on section of Figure 1 holding a shopping
20 cart wheel.

Figure 6 is a perspective view of the seating/storage add-on section of Figure 1 and a shopping cart having its rear wheels positioned above the holster.

Figure 7 is a partial perspective view showing a second
25 preferred embodiment of one of the receptacles of the

seating/storage add-on section of Figure 1 holding a shopping cart wheel.

Figure 8 is a partial perspective view of the add-on section of Figure 1 showing one of the adjustable arms and one of the
5 receptacles comprising the coupling means.

DETAILED DESCRIPTION

Referring to the drawings wherein like characters designate corresponding parts throughout the views and referring particularly to Figure 1, there is shown the seating/storage add-
10 on section 1 of the present invention with an attached shopping cart 100. When attached to each other, the add-on section 1 and the shopping cart 100 form a combined unit 200.

The seating/storage add-on section 1 of the present invention can be used with a conventional push-type shopping cart
15 100 used by shoppers to hold selected items for purchase. Generally, a conventional shopping cart 100 includes a receptacle, such as a basket 101, supported on a wheeled base 102. The wheeled base 102 typically includes a cart frame 103 with two front wheels 104 and two rear wheels 105. The front 104
20 and rear 105 wheels are attached to respective front and rear ends of the frame 103.

The seating/storage add-on section 1 comprises a seating assembly 2 and a base 3 supported by a plurality of wheels. The add-on section 1 also includes a non-rigid coupling means for

holding the rear wheels **105** of a shopping cart **100** and thereby form a non-rigid connection with the cart **100**.

As shown in Figures 2 and 8, the coupling means is a non-rigid connector **4** comprising a holster **27**. The holster **27** includes first **28** and second **29** receptacles attached to the frame **7** by receptacle adjusting means. The receptacle adjusting means includes first **17** and second **18** adjustable arms. Each of the first **17** and second **18** adjustable arms comprise an inner **20a** and outer **20b** telescoping member held in selected adjustable positions by a locking element **21**. Although each of the adjustable arms **17** comprise telescoping members **20a**, **20b**, other suitable adjusting devices could be used instead.

The first **28** and second **29** receptacles are mirror images of each other. Each receptacle **28,29** has side walls **30**, a bottom wall **31** and a top opening **32** as shown in Figure 5. An interior region **33** is bounded by the side **30** and bottom **31** walls of each respective receptacle **28,29**.

Referring to Figure 2, the base **3** of the seating/storage add-on section **1** has front **5** and rear **6** portions. The base **3** further comprises a frame **7** and a platform **8** which is mounted on the frame **7**. The platform **8** is characterized by an upper surface **9**. A leg room area **37** is located above the upper surface **9** of the platform **8**. The plurality of wheels of the add-on section **1** includes two front casters **10** and two rear swivelable casters **11**.

The base **3** includes a brake mechanism **12**. As shown in Figure 3, the brake mechanism **12** comprises a brake pad **13** and a foot

actuator 14. By manipulating the foot actuator 14 a user can engage or disengage the brake pad 13 to alternate the brake mechanism 12 between a locked position and an unlocked position. When the brake mechanism 12 is in the locked position, the brake pad 13 is engaged with the floor, and the rear casters 11 are disengaged or lifted from the floor to deter movement of the seating/storage add-on section 1. Conversely, when the brake mechanism 12 is in the unlocked position, the brake pad 13 is disengaged from the floor and the front 10 and rear 11 casters engage the floor, thereby allowing movement of the add-on section 1.

The seating assembly 2 shown in Figure 4 includes a seat support 15 and a seat portion 16. The seat portion 16 can accommodate one or more passengers in a seated position. A pair of arm rests 39 are included on the seat portion 16 and a handle 19 is mounted on the back of the seat portion 16.

The seat support 15 is formed by a plurality of tubular legs 22 with struts. The seat portion 16 is comprised of a plurality of tubular elements 23 and a plurality of slats 24. The slats 24 form the generally horizontal and the upwardly angled supporting surfaces of the seat portion 16.

The holster 27 is generally shaped to hold the rear wheels 105 of a shopping cart 100. In the preferred embodiment of Figure 5, the bottom wall 31 of each receptacle 28,29 has a generally V-shaped cross section comprised of first 34 and second 35 surfaces. The first 34 and second 35 surfaces are angularly

disposed to one another, so that a wheel resting in a respective receptacle 28,29 will contact at least two points A, B on the bottom wall 31. Point A is on the first surface 34 of the bottom wall 31 and point B is on the second surface 35. It should be understood that although only one of the receptacles 28,29 comprised by the holster 27 is shown in Figure 5, the other receptacle (not shown) is a mirror image thereof.

In another preferred embodiment as shown in Figure 7, each of the first and second receptacles 128,129 have sidewalls 130 and a bottom wall 131. The bottom wall 131 has a curvilinear surface 134 which cradles the rear wheel 105 of an attached shopping cart 100. The closer the shape of the curvilinear surface 134 is to the circumferential shape of the cart's rear wheel 105, the larger the surface contact area is between the bottom wall 131 and the surface of the rear wheel 105 held thereby.

In Figures 1, 2 and 4, the frame 7 and platform 8 of the base 3, the seat support 15, handle 19, arm rests 39, tubular elements 23 of the seat portion 16, and the holster 27 are preferably made of steel, while the slats 24 on the seat portion 16 are plastic. It should be appreciated that the elements comprising the seating/storage add-on section 1 are not limited to the materials disclosed herein, but could be made of other suitable materials having the requisite durability and strength. Suitable materials could include wood, high strength plastics, aluminum and/or other metals.

The seating/storage add-on section 1 provides additional seating and storage space for a shopping cart 100. The non-rigid connector 4 releasably secures the shopping cart 100 to the seating/storage add-on section 1 by holding the cart's rear wheels 105 above the floor or other supporting surface. In addition, the cart 100 (with the general exception of its rear wheels) and the add-on section 1 can move relative to each other when attached by the non-rigid connector 4.

When the add-on section 1 is attached to a shopping cart 100 each of the first 28 and second 29 receptacles of the holster 27 holds a respective rear wheel 105 of a shopping cart 100 within its interior region 33. The bottom wall 31 of each receptacle 28,29 of Figure 5 bears weight of the shopping cart's rear end. Disposed angularly to one another, the first 34 and second 35 surfaces provide a two point contact at points A and B on the bottom wall 31 for supporting a respective rear wheel 105. The two point contact steadies the rear wheel 105 and inhibits back and forth or rolling movement of the wheel 105 within the receptacle 28,29. The side walls 30 of each receptacle 28,29 also limit the back and forth movement of the cart wheels 105 when they are positioned within the holster 27.

Although some of the side walls 30 of the receptacles 28,29 have openings adjacent the bottom wall 31, the openings can be omitted so that the side walls 30 extend completely to bottom wall 31, if desired. At least one aperture 36 is disposed in the

bottom wall **31** of each receptacle **28,29** to allow drainage from the interior region **33**.

With front **10** and rear **11** casters supporting the respective front **5** and rear **6** portions of its base **3**, the add-on section **1** can be easily maneuvered both by itself and with a shopping cart **100**.

The platform **8** acts as a step for passengers entering or exiting the add-on section **1**. For passengers seated on the add-on section **1**, the platform serves as a foot rest. The location above the platform **8** and behind the shopping cart **100** of the combined unit **200** comprises the leg room area **37**, an area in which seated passengers can comfortably position their legs.

The add-on section **1** can hold at least one adult or two children seated. Referring to Figure 4, seat belts **38** on the seating assembly **2** secure the passenger(s) on the seat portion **16**. The arm rests **39** add to the passenger's comfort and provide assistance for passengers entering and exiting the add-on section **1**. The arm rests **39** also help to retain seated passengers on the seating assembly **2**. The handle **19** on the back of the seating assembly **2** is for maneuvering the seating/storage add-on section **1** both alone and with the combined unit **200**.

In a preferred embodiment, the slats **24** of the seating assembly **2** are disposed in an open construction arrangement. The open construction arrangement is characterized by spaces between the slats **24**. The spaces allow bits of debris to fall through the seat portion **16**, thereby hindering the collection of debris on

the seat portion **16**. The plastic composition, along with the open construction arrangement of the slats **24**, facilitates cleaning of the seat portion **16**.

The holster **27** can be adjusted by varying the distance
5 between the receptacles **28,29** on the add-on section **1**. This allows the connector **4** to attach to shopping carts having differently sized wheel bases. The adjustable arms **17,18** are disposed on opposite sides of the platform **8**. To vary the distance between the receptacles **28,29** the effective length of
10 each adjustable arm **17,18** is changed. The locking element **21** secures the telescoping members **20a,20b** of the adjustable arms **17,18** against relative movement. When the locking element **21** is released, the telescoping members **20a,20b** can slide relative to each other to adjust the arm's effective length.

15 Therefore, by releasing the locking element **21** and sliding the inner telescoping member **20a** along the adjoining outer telescoping **20b**, the distance between the receptacles **28,29** can be varied to fit various shopping carts. Although the adjustable arms **17,18** are shown to comprise telescoping members **20a,20b**,
20 other suitable adjustment means could be used instead.

In a preferred embodiment, the locking elements **21** comprise set screws. Although set screws are disclosed herein as locking elements **21** to secure the telescoping members **20a, 20b** against relative movement, other suitable locking elements such as lock
25 collars or detents could be used instead.

Each top opening **32** as shown in Figures 5 and 6 provides access to the interior region **33** of each respective receptacle **28,29**. When attaching a shopping cart **100** to the add-on section **1**, the rear wheels **105** of the cart **100** can be readily placed into the interior region **33** of the respective receptacle **28,29** via the top opening **32**.

Preferably, the rear wheels **105** of the cart **100** are placed in the holster **27** by positioning the cart's rear end over the front portion **5** of the add-on section and then lowering the wheels **105** into respective first **28** and second **29** receptacles. Each rear wheel **105** is lowered through a respective top opening **32** and into the interior region **33** until the wheel **105** rests on the bottom wall **31** of the receptacle **28,29**.

In the preferred embodiment of Figure 5, each rear wheel **105** of the cart **100** contacts the bottom wall **31** of the receptacle **28,29** on at least two points, **A** and **B**. The downward force component of the cart's weight keeps the cart's wheels **105** in contact with the bottom wall **31**. However, the rear wheels **105** can be freely lifted out of their respective receptacles **28,29** when desired.

The seating assembly **2** is positioned on the rear portion **6** of the add-on section's base **3**. The tubular legs **22** support the seat portion **16**. A storage area **40** is located beneath the seat portion **16** of the seating assembly **2** and above the rear portion **6** of the platform **8**. The spacing between the tubular legs **22** allows access to the storage area **40**.

On the holster **27**, the side walls **30** generally extend upwardly from the respective bottom wall **31** of each receptacle **28,29**. Each of the interior regions **33** is sized to receive the rear wheel **105** of a shopping cart therein. The two opposing
5 longitudinal side walls **30** of each receptacle **28,29** are at least greater in length than the diameter of the cart's rear wheels **105**. The two other side walls **30** of the receptacle **28,29** are at least greater in length than the width of the rear wheel **105**.

Furthermore, the bottom wall **31** of each receptacle **28,29** has
10 at least two planar surfaces that are disposed at an angle to one another so that a cross section of the bottom wall **31** is generally V-shaped. The angle formed by the first **34** and second **35** surfaces is an obtuse angle, although the magnitude of the angle could be varied if desired.

15 In the preferred embodiment of Figures 1-3, the holster **27** is attached to the platform **8**. The first **28** and second **29** receptacles of the holster **27** are on respective left and right sides of the front portion **5** adjacent to a respective front caster **10**. Each receptacle **28,29** is attached along one of its
20 side walls **30** to a respective adjustable arm **17,18**. Each receptacle **28,29** can be adjusted to selected positions spaced from the platform **8** by varying the length of the attached adjustable arm **17,18**. With each receptacle **28,29** of the holster **27** adapted to hold one of the cart's rear wheels **105**, the
25 receptacles **28,29** can be adjusted to accommodate the distance between the cart's rear wheels **105**.

In the combined unit **200**, the rear end of the cart **100** is adjacent to the front portion **5** of the add-on section **1**. The leading edge of the leg room area **37** is bounded by the rear end of the cart **100**.

5 The brake mechanism **12** is mounted on the base **3** of the add-on section **1** as shown in Figures 2 and 3. Preferably, the brake mechanism **12** is positioned between the rear swivelable casters **11** and within easy access of a user standing adjacent the rear portion **6** of the add-on section **1**.

10 The rear swivelable casters **11** of the add-on section **1** are mounted on the rear portion **6** of the base **3**, while the front casters **10** are mounted on the front portion **5** thereof.

In a preferred use, the coupling means is adjusted to fit the shopping cart **100**, if necessary. The seating/storage add-on
15 section **1** is attached to a shopping cart **100** via the coupling means. Passengers and/or items are loaded onto the add-on section **1** and the combined unit **200** is maneuvered as desired. However, the add-on section could be loaded before attaching the shopping cart.

20 To adjust the non-rigid connector **4** to fit a particular shopping cart's wheel base, the locking element **21** on one or both of the telescoping members **20a,20b** is released, thereby allowing the telescoping members **20a,20b** to move with respect to each other. As the cooperating telescoping members **20a,20b** slide with
25 respect to each other, the effective length of the respective adjustable arm **17,18** is varied and the distance between the

receptacles **28,29** changes. Using the distance between the rear wheels **105** of the shopping cart **100** as a measurement guide, the receptacles **28,29** are moved the desired distance apart and the locking element **21** is engaged to secure the adjustable arms **17,18**
5 and the receptacles **28,29** in position.

To connect, the cart **100** and add-on section **1** are aligned so that the rear of the shopping cart **100** is positioned adjacent to the front portion **5** of the add-on section **1** as shown in Figure 6. Respective left and right rear wheels **105** are adjacent to the
10 first **28** and second **29** receptacles. The rear end of the shopping cart **100** is lifted so that the rear wheels **105** are above the side walls **30** of the receptacles **28,29**. Next, the first receptacle **28** is vertically aligned with the left rear wheel **105** of the cart **100** and the second receptacle **29** is vertically aligned with the
15 right rear wheel **105** by moving the rear end of the cart **100** over the front portion **5** of the add-on section **1** or by alternately moving the add-on section's front portion **5** underneath the shopping cart **100**.

With the cart's wheels **105** and receptacles **28,29** aligned
20 thusly, the rear end of the shopping cart **100** is lowered until the left and right rear wheels **105** are positioned in the respective first **28** and second **29** receptacles of the holster **27** and are resting on the bottom walls **31** of the respective receptacles **28,29**. Grasping the handle **19** of the add-on section
25 **1**, a user can push and maneuver the combined unit **200** as desired.

To detach the add-on section 1 from the shopping cart 100, the rear wheels 105 are lifted up above the side walls 30 and moved away from the receptacles 28,29. The unattached seating/storage add-on section 1 is fully supported by its front 10 and rear 11 casters. Therefore, when unattached to a cart 100, the add-on section 1 can be easily rolled about. The add-on section 1 can also remain loaded while the cart 100 is attached and detached therefrom.

As a combined unit 200, the add-on section 1 and shopping cart 100 can move relative to one another. The rear wheels 105 of the attached shopping cart 100 remain relatively stationary within in the holster 27, while the rest of the cart 100 is allowed to move. With the rear wheels 105 held in the holster 27, the rest of the cart 100 can pivot about the horizontal axis 108 of the rear wheels 105. Due to this relative movement between the shopping cart 100 and the add-on section 1, the combined unit 200 can move smoothly over uneven terrain without undue stress being placed on the coupling means.

The seating/storage add-on section of the present invention which provides additional seating and storage for a shopper can be readily attached and detached from a shopping cart. Consequently, it is not required to dedicate a shopping cart for exclusive use with the add-on section. The cart and add-on section can be quickly separated if the add-on section is not needed with the shopping cart. The shopping cart can also be

readily detached if exclusive use of the seating/storage add-on section is desired.

With the add-on section and cart being readily separable, the seating/storage add-on section can be stored separately from the cart, thereby reducing the amount of storage area required
5 for shopping carts.

The holster is a non-rigid coupling means that enables an attached shopping cart to move independently of the add-on section. Allowing for this relative movement to occur
10 accommodates unevenness in the terrain and lessens the stress on the connector, without comprising maneuverability of the combined unit. With less stress on the connector, the usable life of the add-on section is extended.

Although the present invention has been described in
15 considerable detail with reference to certain preferred versions thereof, other versions are possible.